Joan Martinez-Alier
ICTA UAB, Barcelona

The industrial economy is not circular, it is entropic. Hence so many Ecological Distribution Conflicts (as recorded in the EJAtlas, www.ejatlas.org)

Mexico, Sept. 2018

- Siempre que vengo a México para hablar de Economía Ecológica y Ecología Política, coincido con algun conflicto ambiental reportado en la prensa donde hay defensores de la tierra víctimas mortales.
- En esta ocasión, consideren los recientes casos de Puebla ya incluidos en el EJAtlas, https://ejatlas.org/conflict/hidroelectricas-de-atzala-coyolapa-puebla-mexico
- https://ejatlas.org/conflict/gaya-hidroelectrica-rioapulco-puebla

Ecological Economics has 3 parts

1. **Study of Social Metabolism** (flows of energy and materials in the economy) (is the economy really dematerializing?)

2.- **Issues of Valuation** (is it possible to translate negative "externalities" into money values? Payment for environmental services? Accept pluralism of values and apply MC evaluation)

3.- **Environmental "top-down" public policies** (ecotaxes etc) **and grassroots environmental conflicts and movements** (e.g. anti-nuclear movement in Germany; or Blockadia movements against fossil fuels).

The industrial economy is not circular, it is entropic. Hence, so many ecological dictribution conflicts, in extraction, transports and waste disposal.

How Circular is the Global Economy?: An Assessment of Material Flows, Waste Production, and Recycling in the European Union and the World in 2005, by Willi Haas, Fridolin Krausmann, Dominik Wiedenhofer, Markus Heinz

J. of Industrial Ecology, 2015 DOI: 10.1111/jiec.12244

- **Of all the materials entering the economy (fossil fuels, building materials, metal ores, biomass) only about 6% are recycled**.
- We apply the sociometabolic approach to assess the circularity of global material flows. All societal material flows globally and in the European Union (EU-27) are traced from extraction to disposal and presented for main material groups for 2005.
- The low degree of circularity has two main reasons: First, 44% of processed materials are used to provide energy and are thus not available for recycling. Second, socioeconomic stocks are still growing at a high rate with net additions to stocks of 17 Gt/yr.

The industrial economy is entropic

- Is uses exhaustible resources like the fossil fuels. It burns them for energy. The energy dissipates. This also produces residues like CO2 in excessive quantities (hence, the increased greenhouse effect).
- The economy also exhausts the renewable resources or “funds”, like fisheries, and undermines the fertility of the soil, the biodiversity, the natural water cycle (that becomes the hydro-social cycle)...
- The industrial economy has a voracious appetite for FRESH SUPPLIES. If we take 95 million of barrels of oil today, tomorrow again, and again, because the oil (or the coal, or the gas) is burnt forever.
- The industrial economy goes to the COMMODITY EXTRACTION FRONTIERS to get new resources, in greater and greater quatities. And it deposits the waste anywhere it can (the atmosphere, the oceans, the rivers and soils...).

THERE IS NO CIRCULAR ECONOMY

- It does not matter what the European Commission or the Chinese Communist Party say about the impending arrival of the circular economy. These are failed performative utterances.
- On the contrary, even a non-growing industrial economy would need to get fresh materials and energy because energy is dissipated and materials are recycled only to a small extent.
- The renewable “funds” (soil fertility, water in rivers, clean air) are also depleted or impounded.
- Because of this, there are more are more ECOLOGICAL DISTRIBUTION CONFLICTS.

ECOLOGICAL DISTRIBUTION CONFLICTS and the EJAtlas

The term Ecological Distribution Conflicts has been used since 1995 to describe social conflicts born from the unfair access to natural resources and the unjust burdens of pollution.

Environmental gains and losses are distributed in a way that causes conflicts.

The terms socio-environmental conflict, environmental conflict or EDC are interchangeable.

The EJAtlas, 2550 ecological distribution conflicts recorded by Sept. 2018 www.ejatlas.org

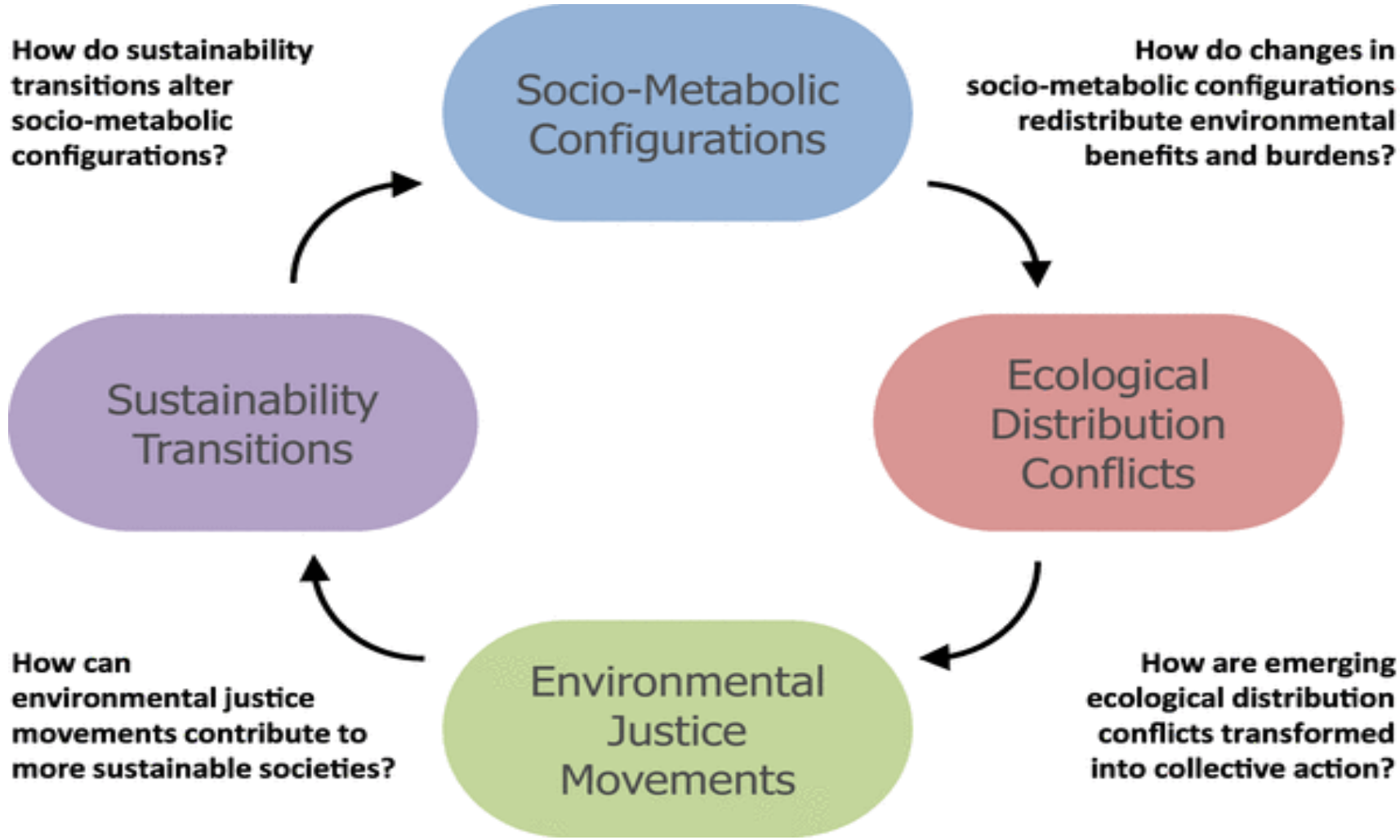
Sergio Rivera, Sierra Negra de Puebla

- Uno de los últimos casos en el EJAtlas. (Fuente. La Jornada de Oriente, 3 sept. 2018).
- Sergio Rivera, secuestrado, agosto 2018. Él es indígena nahua, integrante del Movimiento Agrario Indígena Zapatista (MAIZ) y forma parte de la resistencia a la hidroeléctrica que quiere imponer la empresa Minera Autlán, en la Sierra Negra de Puebla. Un megaproyecto que implicaría la devastación de cientos de hectáreas de selva, la contaminación de los ríos Coyolapa, Huitzilac y Tonto, así como el desplazamiento de comunidades indígenas de San Pablo Zoquitlán y Tlacotepec de Díaz.
- Mediante la hidroeléctrica, esta empresa busca abastecer de energía a los hornos de fundición de su planta de producción de acero en Teziutlán, al norte del estado. Minera Autlán es parte del Grupo Ferrominero de México y pertenece al empresario José Antonio Rivero Larrea.

Recent articles on environmental conflicts, in *Sustainability Science*, May 2018.

- A. Scheidel, F. Demaria, L. Temper, J. Martinez-Alier, Ecological distribution conflicts as forces for sustainability: an overview and conceptual framework

- Leah Temper, Federico Demaria, Arnim Scheidel, Daniela Del Bene, J. Martinez-Alier, The Global Environmental Justice Atlas (EJAtlas): ecological distribution conflicts as forces for sustainability


How do sustainability transitions alter socio-metabolic configurations?
Socio-Metabolic Configurations
How do changes in socio-metabolic configurations redistribute environmental benefits and burdens?
Sustainability Transitions
Ecological Distribution Conflicts
How can environmental justice movements contribute to more sustainable societies?
Environmental Justice Movements
How are emerging ecological distribution conflicts transformed into collective action?

Recent articles based on the EJAtlas, *Sustainability Science*, May 2018

- *Trends in social metabolism and environmental conflicts in four Andean countries from 1970 to 2013*. Mario Pérez-Rincón, Julieth Vargas-Morales, Zulma Crespo.
- *More dams, more violence? A global analysis on resistances and repression around conflictive dams through co-produced knowledge*. Daniela Del Bene, Arnim Scheidel, Leah Temper
- *Environmental justice and the expanding geography of wind power conflicts*. Sofia Avila.
- *Violence in environmental conflicts: the need for a multidimensional approach* (*on Central America*), G. Navas, S. Mingorria, B. Aguilar
- *Inside and beyond the Petro-State frontiers: geography of environmental conflicts in Venezuela's Bolivarian Revolution*. Emiliano Terán.

Also for Latin America

P. Samaniego, M.C. Vallejo, J. Martinez-Alier, Commercial and biophysical deficits in South America, 1990–2013. *Ecological Economics,* March 2017.

- We study the external trade of South America (1990–2013), showing Physical Trade Deficits even in the boom years. After 2012, there were also Commercial Trade Deficits: the exports could not pay for the imports. Even in the boom years, prices of exported tonnage were always lower than those of imported tonnage.

- Facing trade deficits, biophysical adjustments are likely in the short run, expanding the volume of exported materials. This biophysical adjustment might cause oversupply in world markets and, internally, new socio-environmental conflicts.

- Ecological distribution conflicts is a term for collective claims against environmental injustices. For instance, a factory may be polluting the river (which belongs to nobody or belongs to a community that manages the river).
- The same happens with climate change, causing perhaps sea level rise in some Pacific islands or in the Kuna islands in Panama.
- Yet this damage is not valued in the market and those impacted are not compensated for. Unfair ecological distribution is inherent to capitalism, defined by K. W. Kapp (1950) as a system of cost-shifting.
- Notice the explicit absence of "liability" for climate change in the COP21 agreement 2015.

The Ecological Debt

- R. Warlenius, G. Pierce, V. Ramasar, 2015, Reversing the arrow of arrears: The concept of “ecological debt” and its value for environmental justice, *Global Environmental Change*, 30: 21-30.
- The meek agreement of the EU, many other governments, to the notion that there is no environmental liability for climate change. Not everybody is convinced.
- Ecologically unequal exchange and ecological debt. Alf Hornborg, Joan Martinez-Alier. *J. of Political Ecology*.2016.

http://jpe.library.arizona.edu/volume_23/Hornborgintro.pdf

Laudato si and the Ecological Debt (inspired by Latin American thinking)

- 51. … A true "ecological debt" exists, particularly between the global north and south, connected to commercial imbalances with effects on the environment, and the *disproportionate* use of natural resources by certain countries over long periods of time. The export of raw materials to satisfy markets in the industrialized north has caused harm locally, as for example in mercury pollution in gold mining or sulphur dioxide pollution in copper mining. There is a pressing need to calculate the use of environmental space throughout the world for depositing gas residues which have been accumulating for two centuries and have created a situation which currently affects all the countries of the world. The warming caused by huge consumption on the part of some rich countries has repercussions on the poorest areas of the world…
- 52. … In different ways, developing countries, where the most important reserves of the biosphere are found, continue to fuel the development of richer countries at the cost of their own present and future... The developed countries ought to help pay this debt by significantly limiting their consumption of non-renewable energy …

Environmental Justice and Economic Degrowth: An Alliance between Two Movements

Joan Martínez-Alier, *Capitalism, Nature Socialism*, 2012. https://doi.org/10.1080/10455752.2011.648839

Green capitalist growth? Or rather "prosperity without growth" or even a socially sustainable economic degrowth? An alliance of the Degrowth movement and Environmental Justice movements?

The first time that the word *décroissance* was mentioned was in Paris 1972, when André Gorz also asked whether a "green capitalism" was possible.

Economic growth is not compatible with environmental sustainability. The effort to push up the rate of growth by increasing financial debts is in direct conflict with the availability of exhaustible resources and with the capacity of waste sinks. Instead, **economic de-growth, leading to a steady state, is a plausible objective for the rich industrial economies**.

This would be supported by the environmental justice movements which are active in resource extraction and waste disposal conflicts.

Green support for North-South common positions together with the world environmental justice movements (recognition of ecological debt, against ecologically unequal trade, for resource caps, against open cast mining (cyanide, mercury), "bioenergy“ in the form of oil palm plantations or transgenic soybeans using glyphosate, dams, waste disposal through incineration ...).

Also needed is support for "environmental defenders" worldwide, and for indigenous peoples at the commodity extraction frontiers. In the EJAtlas, in 12% of cases deaths of environmental defenders are reported. Also, the Global Witness reports. Many environmental defenders are killed every year.